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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,201	12/06/2000	Hans Hallstrom	AN06182/3152	5088

7590 02/09/2006
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EXAMINER

HUG, ERIC J

ART UNIT PAPER NUMBER

1731

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/674,201	HALLSTROM ET AL.	
	Examiner	Art Unit	
	Eric Hug	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2005 and 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 46,47,53 and 55-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 46,47,53 and 55-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is a follow-up to the decision of the Pre-Appeal Brief conference held on January 19, 2006. Claims 46, 47, 53, and 55-57 are pending.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 46, 47, 53, and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bock et al (4,831,092).

Bock discloses hydrophobic cationic polymers. One particular terpolymer is shown in column 7. The monomer on the left-hand side is a non-ionic hydrophobic monomer without an aromatic group, which corresponds to claimed (a) as described below. The monomer on the right hand side is a cationic monomer, which is equivalently claimed (b), see Q which corresponds to the claimed cationic quaternary ammonium group. The monomer in the middle is an acrylamide monomer, which is a (meth)acrylamide when group R3 is methyl and equivalently claimed (c).

Regarding the non-ionic hydrophobic monomer of Bock, comparison is made to the structure (IV) of the instant specification, page 5. The monomer is an acrylamide based monomer with functional groups R1 and R2 attached to N. R1 and R2 correspond to R8 and R9 of the instant structure. In Bock, R1 and R2 are described in column 7, lines 51-55: "wherein R1 is preferably a C4 to C30 linear or branched alkyl, alkylcycloalkyl, or alkylaryl group, more preferably C6 to C22, and most preferably C6 to C18; R2 is the same or different group as R1, or

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hydrogen, or C1 to C3 linear or branched alkyl group; R3 is hydrogen or methyl;" Given these limitations, the R1 can be C4 and R2 can be C3. The present invention claims N-n-propyl (meth)acrylamide or N-isopropyl (meth)acrylamide, which are C3 groups. The only apparent difference is that the C4 group for R1 in Bock is not explicitly disclosed as possibly being a C3. Note, however, that R2 can be a C3 group.

The claims are unpatentable because it would have been known to one skilled in the art that a C3 group is an obvious structural variant to a C4 group. The C3 alkyl group is a well known homolog to the C4 alkyl group. One skilled in the art would recognize that having a choice of alkyl group allows one to optimize the physical properties of the polymer (e.g., molecular weight, hydrophobicity). That fact that Bock discloses a range of C4 to C30 clearly teaches that one may choose a group that is suitable for the intended use. It is also pointed out that Bock says that R1 is preferably C4 to C30. Nothing limits the R1 group to these values, this range is merely a preferred limitation of a larger group which would obvious include C3. Since C3 and C4 differ by only one carbon unit, it is felt that the teachings of Bock do not teach away from the use of a C3 group for R1. It is also noted that the claimed C3 group is one of a much larger group encompassing C1 to C6 (see page 5 of the specification). Applicant has provided no evidence that would lead one to believe that the claimed C3 is not obvious in view of the C4 of Bock.

As given previously by Examiner Chin, the value of y, which corresponds to the claimed monomer (c) most preferably ranges from 25 to 94.8., x, which corresponds to claimed monomer (IV) ranges from 0.1 to 20 mole percent. In regard to claim 55, the ranges in Bock overlap the claimed ranges.

Response to Arguments

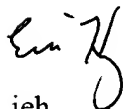
Applicant's argument filed December 1, 2005 have been fully considered. The rejection under 35 U.S.C. 102(b) over Bock set forth previously has been withdrawn, because Bock does not expressly disclose R1 as being a C3, as argued by Applicant. However, as explained above the claimed C3 group is an obvious homolog of the C4 disclosed by Bock, particularly in view that the preferred embodiments of R1 in Bock clearly overlap the choices for R8 of the present invention. Arguments that Bock teaches away from the present invention are not persuasive, as Bock teaches that the monomer containing the R1 group is non-ionic and hydrophobic.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Hug whose telephone number is 571 272-1192.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


jeh